REMARKS

Reconsideration of the application in light of the above amendments and the following remarks is respectfully requested.

Status of the Claims

Claims 1-10 are pending in the application. Claims 1 and 2 have been amended. Claims 11 -19 have been added. No new matter has been added.

Applicant appreciatively acknowledges the Examiner's indication that claims 2-10 contain allowable subject matter, and would be allowable if rewritten to recite the features of their base claims and any intervening claims.

Rejection Under 35 U.S.C. § 103

Claim 1 stands rejected under 35 U.S.C. §103(a) as being unpatentable over "Neural Network Based Adaptive Predistortion For The Linearization of NonLinear RF Amplifiers," IEEE 1995, Bruce E. Watkins et al. ("Watkins '95"), in view of "Utilization of Neural Network Signal Processing in the Design of a Predistorter for a Nonlinear Telecommunication Channel," IEEE 1994, Eun et al. ("Eun"). Claims 1 also stands rejected under 35 U.S.C. §103(a) as being unpatentable over "Predistortion of Nonlinear Amplifiers Using Neural Networks," IEEE 1996, Bruce E. Watkins et al. ("Watkins '96") Watkins in view of U.S. Patent No. 7,333,559 to Song et al. ("Song").

The Office Action acknowledges that Watkins '95 fails to disclose "determining whether said difference meets a specified criterion; if so outputting the neural network model of the RF power amplifier and going to step (4), otherwise inputting the corrected network parameters to the neural network and going to step (2). However, the Office Action relies on Eun as disclosing these features missing from Watkins '95.

Claim 1 has now been amended to better set forth the claimed invention. Specifically claim 1 is directed to a BDPD-based method which includes inputting modeling data required for establishing a neural network model for an RF power amplifier, and now recites "wherein said modeling data comprises: output signal Y(KT), input

signal, and delay items of input signal of the power amplifier." Support for the amendment can be found in the Specification, and claim 2.

Watkins '95 describes a model for a neural network predistorter (Watkins '95 Figure 6). Eun also describes a model for a neural network predistorter. Eun describes a teaching process to make the output of the amplifier approach the input of the predistorter (see section 2 and Figure 1). A person of ordinary skill in the art refers to such a teaching process as "indirect learning."

Amended claim 1 is directed to a neural network model for an RF power amplifier, and recites steps including "outputting the neural network model of the RF power amplifier," "solving a pre-distortion algorithm of the RF power amplifier," and "Carrying out pre-distortion processing for input signal of the RF power amplifier with said pre-distortion algorithm and then feeding them to the RF power amplifier." It is respectfully submitted that Watkins '95 fails to disclose, or suggest, the above-quoted features of claim 1. Further, Watkins '95 also fails to disclose, or suggest, modeling data modeling data comprising "output signal Y(KT), input signal, and delay items of input signal of the power amplifier," as recited in claim 1. In contrast, Watkins '95 merely describes a model for a neural network predistorter. With regard to Eun, that reference fails to disclose, or suggest, the above-quoted features of claim 1 demonstrated to be missing from Watkins '95. Additionally, Eun merely describes an indirect learning process. Eun, section 2, Figure 1. As would be understood by a person of ordinary skill in the art, claim 1 of the present application is recites a direct learning process — e.g., make the output of the model and the expected output value match by adjusting the network parameters. Accordingly, it is respectfully submitted that a combination of Watkins '95 and Eun, to the extent proper, could not render claim 1 obvious.

With regard to the rejection of claim 1 over a combination of Watkins '96 and Song, Applicants respectfully submit that the combination of Watkins '96 and Song is improper, as Song is not prior art to the subject patent application.

The Song reference has a U.S. filing date of December 24, 2003, and claims priority to a Korean application dated December 24, 2002. The present application is a national phase application of a PCT application filed on January 27, 2003, and claims priority to Chinese Patent Application CN02117283.8, filed on April 23, 2002. A proper claim of foreign priority was made concurrent with the filing of the present application, and the Examiner has acknowledged this claim and the receipt of a certified copy of the Priority Application. In accordance with MPEP § 201.15, a certified literal translation of the Priority Application was filed in the prior response dated July 16, 2009. Support for the present claims can be found in the certified translation of the Priority Application.

As the U.S. filing date of Song (i.e., December 24, 2003) is later than the U.S. filing date of the present application (i.e., January 27, 2003), Song is not available as prior art with respect to the present application. Additionally, Applicants note that the present application claims priority to a foreign application which is earlier in time than the foreign priority claim of the Song reference.

Reconsideration and withdrawal of the respective rejections of claim 1 under 35 U.S.C. § 103(a) based on respective combinations of Watkins '95, Watkins '96, Eun, and Song is respectfully requested.

Added Claims 11-19

The newly added claim 11 is a rewritten independent claim which includes all limitations of the previously presented claims 1 and 2. Because claim 2 was indicated to contain allowable subject matter, it is respectfully submitted that added claim 11 is allowable. Dependent claims 12-19 are allowable at least for their dependence from claim 11.

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CONCLUSION

In view of the foregoing it is believed that claims 1-19 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

The Commissioner is hereby authorized to charge any unpaid fees deemed required in connection with this submission, or to credit any overpayment, to Deposit Account No. 04-0100.

Respectfully submitted,

Dated: December 17, 2009

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